

ABSTRACT

Ternary nitride-based buffer layer of a nitride-based light-emitting device and related manufacturing method. The device includes a substrate and a plurality of layers formed over the substrate in the following sequence: a ternary nitride-based buffer layer, a first conductivity type nitride-based semiconductor layer, a light-emitting layer, and a second conductivity type nitride-based semiconductor layer. The manufacturing method includes introducing a first reaction source containing a first group III element into a chamber at a first temperature that is subsequently deposited on the surface of the substrate, the melting point of said element being lower than the first temperature. Introducing a second reaction source containing a second group III element and a third reaction source containing a nitrogen element into the chamber at a second temperature, no lower than the melting point of the first group III element, for forming a ternary nitride-based buffer layer with the first group III element.